

regions for generating therapeutic antibodies. For example, regions of PBH1 that are used to generate therapeutic antibodies include the following sequences:

From exons 1-15:

a.a. 1-713 (Figure 6A);

From exons 17-28:

a.a. 168-180 of Figure 6C, LHSSNKSSLYSGR (SEQ ID NO:40);

a.a. 274-342 of Figure 6C,

RQGILRQNEQRWRWIFRSVIYEPYLAMFGQVPSVDGTTYDFAHCTFTGNESKPLCVELDEHNL
PRFP (SEQ ID NO:41); and

a.a. 520-560 of Figure 6C,

KKCFKCCCCKEKNMESSVCSVEAGEDAYNYREHKEGSKELFG (SEQ ID NO:42). ^A

Please insert the accompanying paper copy of the Sequence Listing, page numbers 1 to 27, at the end of the application.

REMARKS

Applicants request entry of this amendment in adherence with 37 C.F.R. §§1.821 to 1.825. This amendment is accompanied by a floppy disk containing the above named sequences, SEQ ID NOS:1-42, in computer readable form, and a paper copy of the sequence information which has been printed from the floppy disk.

The information contained in the computer readable disk was prepared through the use of the software program "PatentIn" and is identical to that of the paper copy. This amendment contains no new matter.

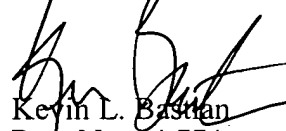
Attached hereto is a marked-up version of the changes made to the Specification by the current Amendment. The attached pages are captioned "**VERSION WITH MARKINGS TO SHOW CHANGES MADE.**"

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PATENT

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Paragraph beginning at line 37 of page 5 has been amended as follows:

Figure 1 shows an embodiment of a nucleic acid (mRNA) which includes a sequence which encodes a prostate cancer protein provided herein, PBH1 (SEQ ID NO:1). The start and stop codons are underlined, defining an open reading frame.

Paragraph beginning at line 1 of page 6 has been amended as follows:

Figure 2 shows an embodiment of an amino acid sequence of PBH1 (SEQ ID NO:2). Potential transmembrane domains are underlined.

Paragraph beginning at line 10 of page 6 has been amended as follows:

Figures 4A-4C show sequence alignments between PBH1 amino acid sequences (SEQ ID NOS:3, 18, 22 and 29) and TRPC7 (SEQ ID NOS:4, 19, 23 and 30), using BLASTP alignment program. The alignment of Exons 1-15 is shown in Figure 4A (SEQ ID NOS:3-17); the alignment of Exon 16 is shown in Figure 4B (SEQ ID NOS:18-21); and the alignment of Exons 17-28 is shown in 4C (SEQ ID NOS:22-31).

Paragraph beginning at line 15 of page 6 has been amended as follows:

Figures 5A-5C show an embodiment of a nucleic acid (mRNA) which includes a sequence which encodes PBH1. Figure 5A corresponds to nucleic acid sequence encoding exons 1-15 of PBH1 (SEQ ID NO:32); Figure 5B corresponds to nucleic acid sequence encoding exon 16 of PBH1 (SEQ ID NO:33); and Figure 5C corresponds to nucleic acid sequence encoding exons 17-28 of PBH1 (SEQ ID NO:34).

Paragraph beginning at line 20 of page 6 has been amended as follows:

Figures 6A-6C show an embodiment of an amino acid sequence of PBH1. Figure 6A shows the amino acid sequence of exons 1-15 (SEQ ID NO:35); Figure 6B shows the amino acid sequence of exon 16 (SEQ ID NO:36) and includes a potential transmembrane domain, designated by underlining; Figure 6C shows the amino acid sequence of exons 17-28 (SEQ ID NO:37) and includes 6 potential transmembrane domains, designated by underlining.

Paragraph beginning at line 35 of page 13 has been amended as follows:

The extracellular domains of transmembrane proteins are diverse; however, conserved motifs are found repeatedly among various extracellular domains. Conserved structure and/or functions have been ascribed to different extracellular motifs. For example, cytokine receptors are characterized by a cluster of cysteines and a WSXWS (SEQ ID NO:38) (W= tryptophan, S= serine, X=any amino acid) motif. Immunoglobulin-like domains are highly conserved. Mucin-like domains may be involved in cell adhesion and leucine-rich repeats participate in protein-protein interactions.

Paragraph beginning at line 8 of page 58 has been amended as follows:

Total RNA	5-10 ug
T7-(dT) ₂₄ primer (<u>SEQ ID NO:39</u>) (100 pmol/uL)	1 uL (2 ug/uL)
Add water to a total volume of	11 uL

Heat to 70°C for 10 minutes. Place on ice for 2 minutes.

Paragraph beginning at line 26 of page 68 has been amended as follows:

Based on the observation that the protein sequence of PBH1 contains 7 transmembrane domains, it is likely that the amino terminal region of at least 713 amino acids and three protein loops are extracellular (see Figure 2). The extracellular regions may contain suitable antigenic

regions for generating therapeutic antibodies. For example, regions of PBH1 that are used to generate therapeutic antibodies include the following sequences:

From exons 1-15:

a.a. 1-713 (Figure 6A);

From exons 17-28:

a.a. 168-180 of Figure 6C, LHSSNKSSLYSGR (SEQ ID NO:40);

a.a. 274-342 of Figure 6C,

RQGILRQNEQRWRWIFRSVIYEPYLAMFGQVPSDVDGTTYDFAHCTFTGNESKPLCVELDEHNL
PRFP (SEQ ID NO:41); and

a.a. 520-560 of Figure 6C,

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